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PATENT APPLICATION

ATTORNEY DOCKET NO. 10012828-1

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Paul Clinton Coffin et al.

Confirmation No.: 1251

Application No.: 09/938,159

Examiner: Hanh Van Tran

Filing Date: August 23, 2001

Group Art Unit: 3637

Title: Removable Media Storage Method and Device for a Data Storage System

Mail Stop Appeal Brief-Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on January 19, 2007.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00. (This fee was previously paid on 07-22-2005)

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month  
\$120

☐ 2nd Month  
\$450

☐ 3rd Month  
\$1020

☐ 4th Month  
\$1590

☐ The extension fee has already been filed in this application.

☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

\*(This fee was previously paid on 07-22-2005)

Please charge to Deposit Account 08-2025 the sum of \* \$ 500. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

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Respectfully submitted,

Paul Clinton Coffin et al.

By: Dan C. Hu

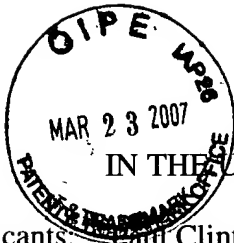
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Paul Clinton Coffin et al.	§	Art Unit:	3637
		§		
Serial No.:	09/938,159	§		
		§	Examiner:	Hanh Van Tran
Filed:	August 23, 2001	§		
		§		
For:	Removable Media Storage	§	Atty. Dkt. No.:	10012828-1
	Method and Device for a Data	§		(HPC.0200US)
	Storage System	§		

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF PURSUANT TO 37 C.F.R § 41.37**

Sir:

The final rejection of claims 21, 22, 24-29, 35, and 37-67 is hereby appealed.

**I. REAL PARTY IN INTEREST**

The real party in interest is Hewlett-Packard Development Co., L.P.

**II. RELATED APPEALS AND INTERFERENCES**

None.

**III. STATUS OF THE CLAIMS**

Claims 21, 22, 24-29, 35, and 37-67 have been finally rejected and are the subject of this appeal. Claims 1-20, 23, 30-34, and 36 have been cancelled.

Date of Deposit:

*March 19, 2007*

I hereby certify under 37 CFR 1.8(a) that this correspondence is being deposited with the United States Postal Service as **first class mail** with sufficient postage on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313.

Ginger Yount

*Ginger Yount*

#### **IV. STATUS OF AMENDMENTS**

No amendment after final rejection has been submitted.

#### **V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 21 recites a data storage system (Figs. 1-3, 11, 38, 39:100) comprising:

- a system housing (Figs. 1-3, 11, 14:104) having an opening, and first and second elongate reference structures (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2);

- a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a device housing configured to receive the plurality of data media, the device housing having first and second elongate alignment structures (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the first and second elongate reference structures such that the media storage device may be inserted into and removed from the system housing by slidably engaging the elongate reference structures and the elongate alignment structures and guiding the media storage device through the opening of the system housing along a longitudinal axis of the device housing, the data media being inserted into and removed from the device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51 lines 2-6, 16-21);

- a spring mechanism (Fig. 27:2730) having plural fingers configured to engage the corresponding plurality of data media in the device housing (Spec., p. 52, line 16-p. 53, line 12);

a data exchange device for reading data from the data media (Figs. 2, 40:108; Spec., p. 9, lines 14-15); and

a media handling system for transferring data media from the media storage device to the data exchange device (Figs. 2, 11, 40-43:200; Spec., p. 9, lines 15-17; Spec., p. 12, line 1-p. 16, line 7).

Independent claim 40 recites a data storage system comprising:

a data storage system housing (Figs. 1-3, 11, 14:104) having an opening, and reference rails (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2); and

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a media storage device housing configured to receive the plurality of data media, the housing having opposing ends, the media storage device housing having alignment grooves (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the reference rails such that the media storage device may be inserted into and removed from the data storage system housing by slidably engaging the reference rails and the alignment grooves and guiding the media storage device through the opening of the data storage system housing along a longitudinal axis of the media storage device housing, the opposing ends of the media storage device housing being located along the longitudinal axis, the data media being inserted into and removed from the media storage device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21);

a spring mechanism (Fig. 27:2730) comprising a first end and a second end, the first end being operationally attached to the top of the media storage device housing (Spec., p. 52, line 16-p. 53, line 12); and

a finger (Fig. 29:2738) attached to the second end of the spring mechanism (Spec., p. 53, lines 9-12);

wherein the spring mechanism and the finger are configured to engage the data media.

Independent claim 43 recites a data storage system comprising:

a system housing (Figs. 1-3, 11, 14:104) having an opening, and reference structures (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2);

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a device housing configured to receive the plurality of data media, the device housing having alignment structures (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the reference structures such that the media storage device may be inserted into and removed from the system housing by slidably engaging the reference structures and the alignment structures and guiding the media storage device through the opening of the system housing along a longitudinal axis of the device housing, the data media being inserted into and removed from the device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21);

a spring mechanism (Fig. 27:2730) having fingers configured to engage the corresponding plurality of data media to secure the plurality of data media in the device housing (Spec., p. 52, line 16-p. 53, line 12);

a drawer (Figs. 1, 2, 12-14, 25:114) to receive the media storage device, the drawer being moveable between a retracted position and an extended position (Spec. p. 11, lines 6-10; p. 34, line 14-p. 36, line 18); and

guide rails to enable movement of the drawer between the retracted and extended positions, the guide rails being separate from the reference rails (Figs. 13-20, 22, 24, 31:1400, 1308, 1332; Spec., p. 36, line 8-p. 40, line 4).

Independent claim 47 recites a data storage system comprising:

a system housing (Figs. 1-3, 11, 14:104) having an opening, and reference structures (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2);

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a device housing configured to receive the plurality of data media, the device housing having alignment structures (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the reference structures such that the media storage device may be inserted into and removed from the system housing by slidably engaging the reference structures and the alignment structures and guiding the media storage device through the opening of the system housing along a longitudinal axis of the

device housing, the data media being inserted into and removed from the device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21);

a spring mechanism (Fig. 27:2730) having fingers (Fig. 29:2738) configured to engage the corresponding plurality of data media to secure the plurality of data media in the device housing (Spec., p. 52, line 16-p. 53, line 12);

a moveable drawer (Figs. 1, 2, 12-14, 25:114) to receive the media storage device (Spec., p. 11, lines 6-10; p. 34, line 14-p. 36, line 18); and

an automated drive system (Fig. 31:3102) adapted to, in response to user input, move the drawer between a retracted position to an extended position (Spec., p. 40, line 7-p. 42, line 20).

Independent claim 50 recites a data storage system comprising:

a data storage system housing (Figs. 1-3, 11, 14:104) having an opening, and reference rails (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2);

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a media storage device housing configured to receive the plurality of data media, the housing having opposing ends, the media storage device housing having alignment grooves (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the reference rails such that the media storage device may be inserted into and removed from the data storage system housing by slidably engaging the reference rails and the alignment grooves and guiding the media storage device through the opening of the data storage system housing along a longitudinal axis of the media storage device housing, the opposing ends of the media storage device housing being located along the longitudinal axis, the data media being inserted into and removed from the media storage device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21); and

a moveable drawer (Figs. 1, 2, 12-14, 25:114) to receive the media storage device, the drawer moveable between a retracted position inside the data storage system housing and an extended position wherein the drawer protrudes from the data storage system housing (Spec., p. 11, lines 6-10; p. 34, line 14-p. 36, line 18),

the drawer further comprising supplemental slots (Fig. 24:2408) to store spare data media, the supplemental slots separate from the media storage device (Spec., p. 48, line 12-p. 49, line 4).

Independent claim 53 recites a data storage system comprising:

a data storage system housing (Figs. 1-3, 11, 14:104) having an opening, and reference rails (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2);

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a media storage device housing configured to receive the plurality of data media, the housing having opposing ends, the media storage device housing having alignment grooves (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the reference rails such that the media storage device may be inserted into and removed from the data storage system housing by slidably engaging the reference rails and the alignment grooves and guiding the media storage device through the opening of the data storage system housing along a longitudinal axis of the media storage device housing, the opposing ends of the media storage device housing being located along the longitudinal axis, the data media being inserted into and removed from the media storage device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21);

at least another media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102),

the media storage devices stacked in a vertical stack arrangement (Fig. 3:300; Spec., p. 11, lines 13-19); and

a plurality of moveable (Figs. 1, 2, 12-14, 25:114) drawers to receive respective media storage devices, each drawer moveable between a retracted position inside the data storage system housing and an extended position wherein the drawer protrudes from the data storage system housing (Spec., p. 11, lines 6-10; p. 34, line 14-p. 36, line 18).

Independent claim 54 recites a data storage system comprising:

a data storage system housing (Figs. 1-3, 11, 14:104) having an opening, and reference rails (Figs. 13, 14, 21:1312, 1316) located adjacent the opening (Spec., p. 43, line 1-p. 44, line 2); and

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102), the media storage device comprising a media storage device housing configured to receive the plurality of data media, the housing having opposing ends, the media storage device housing having alignment grooves (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752), each of which is adapted to slidably engage with a respective one of the

reference rails such that the media storage device may be inserted into and removed from the data storage system housing by slidably engaging the reference rails and the alignment grooves and guiding the media storage device through the opening of the data storage system housing along a longitudinal axis of the media storage device housing, the opposing ends of the media storage device housing being located along the longitudinal axis, the data media being inserted into and removed from the media storage device housing along an axis transverse to the longitudinal axis (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21);

at least another media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media (Figs. 1, 12, 25, 27-29:102),

the media storage devices stacked in a vertical stack arrangement (Fig. 3:300; Spec., p. 11, lines 13-19); and

a bulk access apparatus (Fig. 38:3902) to provide single access to the plurality of media storage devices arranged in the vertical stack arrangement (Spec., p. 59, line 14-p. 61, line 10).

Independent claim 60 recites a data storage system comprising (Figs. 1-3, 11, 38, 39:100) comprising:

a data storage system housing (Figs. 1-3, 11, 14:104) having an opening and reference structures (Figs. 13, 14, 21:1312, 1316);

a media storage device (Figs. 1, 2, 12-14, 25, 40:106; Figs. 27-30:2700) for storing a plurality of data media devices (Figs. 1, 12, 25, 27-29:102), the media storage device having a housing with alignment structures (Figs. 13, 21:1320, 1322; Fig. 27:2750, 2752) to slidably engage the respective reference structures to enable slidable movement of the media storage device through the opening of the data storage system housing (Spec., p. 33, line 17-p. 34, line 20; p. 43, line 1-p. 44, line 2; p. 51, lines 2-6, 16-21);

a spring mechanism (Fig. 27:2730) having plural fingers (Fig. 29:2738) configured to engage and secure the corresponding plurality of data media in the device housing (Spec., p. 52, line 16-p. 53, line 12);

a moveable media exchange device (Figs. 1, 2, 12-14, 22:114; Figs. 24, 25:2400) to receive the media storage device, the media exchange device moveable between a retracted position and an extended position, wherein the media storage device is positioned inside the data storage system housing when the media exchange device is in the retracted position, and wherein the media storage device protrudes from the data storage system housing when the media



exchange device is in the extended position (Spec., p. 11, lines 6-7; p. 34, line 14-p. 36, line 7; p. 48, line 12-p. 49, line 4); and

guide structures to moveably guide the media exchange device between the retracted and extended positions (Figs. 13-20, 22, 24, 31:1400, 1308, 1332; Spec., p. 36, line 8-p. 40, line 4).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Claims 21, 22, 24-29, 35, and 37-67 Rejected Under 35 U.S.C. § 103 Over U.S. Patent No. 6,116,063 (Foslien) in View of U.S. Patent No. 6,042,205 (Coffin) and U.S. Patent No. 5,537,371 (Niederlein).**
- B. Claims 50-52 Rejected Under 35 U.S.C. § 102 Over U.S. Patent No. 6,648,428 (Chaloner).**

## **VII. ARGUMENT**

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-headings as required by 37 C.F.R. § 41.37(c)(1)(vii).

- A. Claims 21, 22, 24-29, 35, and 37-67 Rejected Under 35 U.S.C. § 103 Over U.S. Patent No. 6,116,063 (Foslien) in View of U.S. Patent No. 6,042,205 (Coffin) and U.S. Patent No. 5,537,371 (Niederlein).**

- 1. Claims 43, 44, 52, 60-62, and 66.**

Independent claim 60 was rejected as being obvious over Foslien, Coffin, and Niederlein. It is respectfully submitted that a *prima facie* case of obviousness has not been established since no motivation or suggestion existed to combine the teachings of the references. *See* M.P.E.P. § 2143 (8<sup>th</sup> ed., Rev. 5), at 2100-126.

As stated by the Federal Circuit, “[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness.” *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The PTO “can satisfy this burden only by showing some objective teaching in the

prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *Id.* As warned by the Federal Circuit, prior art references cannot be combined “absent some teaching or suggestion supporting the combination.” *Id.* at 1075.

Here, the Examiner has cited to three references, and used impermissible hindsight to piece together isolated elements of the prior art references to achieve the claimed invention. Specifically, the Examiner conceded that the primary reference, Foslien, fails to disclose the reference structures that are part of the system housing, and the alignment structures that are part of the media storage device housing, as recited in claim 60. According to claim 60, the alignment structures slidably engage respective reference structures to enable slidable movement of the media storage device through the opening of the system housing. Note that claim 60 further recites a moveable media exchange device to receive the media storage device, and guide structures to moveably guide the moveable media exchange device between the retracted and extended positions (to cause the moveable media exchange device to be inside the system housing or to protrude from the system housing).

The Examiner cited Niederlein as disclosing the reference structures and alignment structures of claim 60. 11/2/2006 Office Action at 6. The Examiner asserted that it would have been obvious to modify Foslien to incorporate the tongue-and-groove mechanism described in Niederlein “for the purpose of facilitate [sic] moving the drawer between the retracted and extended positions, ... since the references teach alternate conventional media storage device, used for the same intended purpose, thereby providing structure as claimed.” *Id.*

Except for a conclusory statement that it would have been obvious to modify Foslien based on the teachings of Niederlein, the Examiner has failed to cite to objective evidence,

whether implicit or explicit, in the cited references, or in knowledge generally available to a person of ordinary skill in the art, that would have led such a person to modify Foslien with the teachings of Niederlein. Foslien shows a data storage system that has a drawer 54 with slots 56, 58 for receiving data storage media 60, 62. Foslien, 4:60-5:6. An unlabelled structure is depicted underneath the drawer 54 to guide movement of the drawer 54 into and out of the housing 30 (*see* Fig. 2 of Foslien). Thus, it is clear that Foslien already has a specific structure to allow movement of its media storage device into and out of the storage system housing 30, and this specific structure corresponds to the guide structures recited in claim 60, *not* to the reference and alignment structures of claim 60.

In fact, there existed no suggestion of any desirability to add the reference structures and alignment structures of claim 60 into the system of Foslien. “The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the *desirability* of the modification.” *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992) (emphasis added). Here, it is clear that nowhere within any of the references (Foslien, Coffin, and Niederlein) is there any suggestion of need or desirability to incorporate the tongue-and-groove mechanism of Niederlein into the Foslien system. Foslien provides objective proof that a person of ordinary skill in the art prior to the present invention did not realize that it would be desirable to incorporate reference and alignment structures as claimed into the Foslien arrangement. The Examiner’s assertion that such a person of ordinary skill in the art would have found it obvious to modify Foslien using the Niederlein tongue-and-groove mechanism is based purely on impermissible hindsight that has benefited from the disclosure of the present invention.

The disk magazine arrangement that can be removed or inserted into the housing 2 of Niederlein is different from the drawer arrangement described and depicted in Foslien. Foslien teaches that its unlabelled structure underneath the drawer 54 provides for movement of the drawer 54 into and out of the housing 30. There is clearly no suggestion of any need or desirability to add tongue structures to the housing 30 of Foslien, and groove structures to the drawer 54 of Foslien (or vice versa). The only apparent reason for making the modification of Foslien is based on impermissible hindsight benefiting from the disclosure of the present invention, which is strictly prohibited. *See, e.g., In re Fine*, 837 F.2d at 1075 (“One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.”); *In re Fritch*, 972 F.2d at 1266 (“It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious.”).

In fact, if the tongue-and-groove mechanism of Niederlein were simply added to the drawer 54 and housing 30 of Foslien, it would be likely that the tongue-and-groove mechanism would interfere with the guiding provided by the guide structure underneath the drawer 54 of Foslien, unless a designer very carefully ensures exact tolerances are met. It is unlikely that a person of ordinary skill in the art would go to the trouble of adding the tongue-and-groove mechanism of Niederlein to the drawer 54 of Foslien, since doing so adds complexity and would mean that the manufacturer of the storage system of Foslien would have to ensure tighter tolerances of the structures of the drawer 54, which would lead to increased costs.

In view of the above, it is clear that no motivation existed to incorporate the teachings of Niederlein into Foslien. Coffin, which was cited by the Examiner as disclosing a spring

mechanism, similarly does not provide any suggestion of incorporating alignment and reference structures into the system of Foslien.

In view of the foregoing, a *prima facie* case of obviousness has clearly not been established with respect to claim 60 and its dependent claims, since no motivation or suggestion existed to combine the teachings of Foslien, Coffin, and Niederlein.

Independent claim 43 and its dependent claims are similarly allowable over Foslien, Coffin, and Niederlein.

Reversal of the final rejection of the above claims is respectfully requested.

## **2. Claims 45 and 46.**

Claim 45 depends from claim 43, and thus is allowable for at least the same reasons as claim 43. Moreover, claim 45 recites that engagement of the reference structures and respective alignment structures *lifts the media storage device* from the drawer. It is noted that there existed no teaching or suggestion anywhere in any of Foslien, Coffin, and Niederlein of lifting a media storage device from a drawer due to engagement of reference structures and respective alignment structures. In fact, it would have been impossible to lift the drawer 54 of Foslien, even if the tongue-and-groove mechanism of Niederlein were incorporated into Foslien. That is because the drawer 54 of Foslien is held in place by the underlying guide structure underneath the drawer 54. This underlying structure would have prevented the lifting of the drawer 54 (note that the slots 56, 58 are part of the drawer 54, and thus, the housing defining the slots 56, 58 are also part of the drawer 54).

The drawer 54 and slots 56, 58 of Foslien are distinguished from the drawer of claim 45, in which recites the drawer receives the media storage device that stores the plurality of data media. Since the media storage device is received by the drawer in claim 45, engagement of the

reference structures and respective alignment structures enables the lifting of the media storage device from the drawer. On the other hand, since Foslien teaches an integrated drawer and media storage device, such lifting is not contemplated or suggested by Foslien.

Claim 45 (and its dependent claim) are thus allowable for the additional reason that the hypothetical combination of Foslien, Coffin, and Niederlein does not teach or suggest all elements of the claim.

Reversal of the final rejection of the above claims is respectfully requested.

**3. Claims 21, 22, 24-29, 35, and 63-65.**

Independent claim 21 was also rejected as being obvious over Foslien, Coffin, and Niederlein. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 21 and its dependent claims for at least the reason that no motivation or suggestion existed to combine the references, as discussed above with respect to claim 60.

Reversal of the final rejection of the above claims is respectfully requested.

**4. Claims 37-42, 55-59**

Independent claim 40 was also rejected as being obvious over Foslien, Coffin, and Niederlein. A *prima facie* case of obviousness has not been established with respect to claim 40 for at least the reason that no motivation or suggestion existed to combine the teachings of the references, as discussed above with respect to claim 60.

Therefore, reversal of the final rejection of the above claims is respectfully requested.

**5. Claim 47.**

Independent claim 47 was also rejected as being obvious over Foslien, Coffin, and Niederlein. A *prima facie* case of obviousness has not been established with respect to claim 47 for at least the reason that no motivation or suggestion existed to combine the teachings of the references, as discussed above with respect to claim 60.

Moreover, claim 47 further recites an automated drive system adapted to, in response to user input, move the drawer between a retracted position and an extended position. With respect to this feature of claim 47, the Examiner stated that “it is well known in the art to provide a data storage system with such automated drive system in order to facilitate the opening and closing of the drawer, thus it would have been obvious to modify the structure of Foslien by providing the data storage system with an automated drive system ....” 11/2/2006 Office Action at 7. The Examiner has cited to *no actual evidence* that provides any teaching or suggestion of an automated drive system to move the drawer between a retracted position and an extended position, as recited in claim 47. The Examiner merely made a conclusory assertion that such a feature was well known. The Examiner has failed to cite to objective evidence that would have provided the requisite suggestion to modify Foslien, Coffin, and Niederlein to achieve the claimed invention.

Therefore, it is respectfully submitted that the hypothetical combination of Foslien, Coffin, and Niederlein fails to teach or suggest all elements of claim 47. The *prima facie* case of obviousness is further defective for this additional reason.

In view of the foregoing, reversal of the final rejection of the above claim is respectfully requested.

**6. Claims 48 and 49.**

Claim 48 depends from claim 47, and is thus allowable for at least the same reasons as claim 47. Moreover, claim 48 recites that the drive system has a motor to cause movement of the drawer. The Examiner erroneously stated that this feature of claim 48 “is well known.” In fact, the Examiner has failed to cite to any objective evidence that would have provided the requisite suggestion to incorporate the automated drive system with a motor, as recited in claims 48 and 49, into the alleged Foslien/Coffin/Niederlein system. Therefore, the hypothetical combination of the references clearly does not teach or suggest the subject matter of claims 48 and 49.

Reversal of the final rejection of the above claims is respectfully requested.

**7. Claims 50, 51, and 67.**

Independent claim 50 was also rejected as being obvious over Foslien, Coffin, and Niederlein. A *prima facie* case of obviousness has not been established with respect to claim 50 for at least the reason that no motivation or suggestion existed to combine the teachings of the references, as discussed above with respect to claim 60.

Moreover, claim 50 recites that the drawer further comprises supplemental slots to store spare data media, where the supplemental slots are separate from the media storage device. The Examiner stated that such supplemental slots are “well known in the art.” However, the Examiner has failed to cite to any evidence that supports this assertion. No evidence exists that would have suggested the modification of the alleged Foslien/Coffin/Niederlein system to incorporate supplemental slots to store spare data media, as recited in claim 50.

Therefore, the *prima facie* case of obviousness is further defective for the reason that the hypothetical combination of the references fails to teach or suggest all elements of claim 50 (and its dependent claims).



Reversal of the final rejection of the above claims is respectfully requested.

**8. Claims 53 and 54.**

Independent claim 53 was rejected as being obvious over Foslien, Coffin, and Niederlein. A *prima facie* case of obviousness has not been established with respect to the references for at least the reason that no motivation or suggestion existed to combine the reference teachings, as discussed above in connection with claim 60.

Independent claim 54 is similarly allowable over the cited references.

Therefore, reversal of the final rejection of the above claims is respectfully requested.

**B. Claims 50-52 Rejected Under 35 U.S.C. § 102 Over U.S. Patent No. 6,648,428 (Chaloner).**

**1. Claims 50 and 51.**

Independent claim 50 was also rejected as being anticipated by Chaloner. The Examiner cited the space between plate 124 and front panel 62 (Figs. 1 and 7 of Chaloner) as disclosing the supplemental slots that are part of the drawer of claim 50. 11/2/2006 Office Action at 3. The Examiner conceded that Chaloner does not specifically state what that space is used for. *Id.* at 7. Appellant respectfully submits that this space does not constitute the supplemental slots to store spare data media, as recited in claim 50.

In fact, it is noted that claim 50 recites “supplemental slots” (in the plural sense). There is only one space between the drawer 124 and the front panel 62 in Chaloner. Therefore, Chaloner clearly does not disclose supplemental slots that are part of a drawer to store spare data media.

In view of the foregoing, it is respectfully submitted that claim 50 and its dependent claim 51 are not anticipated by Chaloner.

Reversal of the final rejection of the above claims is respectfully requested.

**2. Claim 52.**

Claim 52 was also rejected as anticipated by Chaloner. Claim 52 depends from claim 43, which recites a spring mechanism having fingers configured to engage corresponding data media to secure the data media in the device housing. Such a feature is clearly not disclosed by Chaloner. Therefore, claim 52 is not anticipated by Chaloner.

Reversal of the final rejection of the above claim is respectfully requested.

**VIII. CONCLUSION**

In view of the foregoing, reversal of all final rejections and allowance of all pending claims is respectfully requested.

Respectfully submitted,

Date: \_\_\_\_\_

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**APPENDIX OF APPEALED CLAIMS**

The claims on appeal are:

1    21.    A data storage system comprising:

2            a system housing having an opening, and first and second elongate reference structures  
3    located adjacent the opening;

4            a media storage device for storing a plurality of data media, the media storage device  
5    comprising a device housing configured to receive the plurality of data media, the device  
6    housing having first and second elongate alignment structures, each of which is adapted to  
7    slidably engage with a respective one of the first and second elongate reference structures such  
8    that the media storage device may be inserted into and removed from the system housing by  
9    slidably engaging the elongate reference structures and the elongate alignment structures and  
10   guiding the media storage device through the opening of the system housing along a longitudinal  
11   axis of the device housing, the data media being inserted into and removed from the device  
12   housing along an axis transverse to the longitudinal axis;

13           a spring mechanism having plural fingers configured to engage the corresponding  
14   plurality of data media in the device housing;

15           a data exchange device for reading data from the data media; and

16           a media handling system for transferring data media from the media storage device to the  
17   data exchange device.

1    22.    The data storage system of claim 21, wherein the media storage device further comprises  
2    a locking plate attached to the device housing and configured to engage a locking mechanism  
3    located in the opening in the system housing.

1    24.    The data storage system of claim 21, wherein the housing of the media storage device is  
2    molded from plastic.

1 25. The data storage system of claim 21, wherein the device housing further comprises a  
2 handle configured to enable an operator to apply a force substantially parallel to the first elongate  
3 alignment structure such that when the first elongate alignment structure engages the first  
4 elongate reference structure the media storage device may be inserted and removed from the  
5 system housing.

1 26. The data storage system of claim 21, wherein the device housing has opposing sides  
2 located between the top and the bottom and extending parallel to the longitudinal axis, at least  
3 one of the opposing sides being configured to receive the data media.

1 27. The data storage system of claim 21, wherein the spring mechanism has a first end and a  
2 second end, the first end being operationally attached to the top of the device housing; and  
3 each finger is attached to the second end of the spring mechanism.

1 28. The data storage system of claim 26, wherein the device housing comprises a plurality of  
2 slots defined by a plurality of dividers positioned in spaced-apart relation within the device  
3 housing, and wherein the spring mechanism and fingers are configured to engage and secure the  
4 corresponding plurality of data media in respective slots.

1 29. The data storage system of claim 21, wherein the spring mechanism comprises a metallic  
2 strip.

1 35. The data storage system of claim 21, further comprising means for applying a force  
2 substantially parallel to the first elongate alignment structure.

1 37. The data storage system of claim 40, wherein the media storage device further comprises  
2 a locking plate attached to the media storage device housing and configured to engage a locking  
3 mechanism located in the opening in the data storage system housing.

1 38. The data storage system of claim 40, wherein the housing of the media storage device is  
2 molded from plastic.

1 39. The data storage system of claim 40, wherein the media storage device housing has  
2 opposing sides located between the top and the bottom and extending parallel to the longitudinal  
3 axis, at least one of the opposing sides being configured to receive the data media.

1 40. A data storage system comprising:

2 a data storage system housing having an opening, and reference rails located adjacent the  
3 opening; and

4 a media storage device for storing a plurality of data media, the media storage device  
5 comprising a media storage device housing configured to receive the plurality of data media, the  
6 housing having opposing ends, the media storage device housing having alignment grooves, each  
7 of which is adapted to slidably engage with a respective one of the reference rails such that the  
8 media storage device may be inserted into and removed from the data storage system housing by  
9 slidably engaging the reference rails and the alignment grooves and guiding the media storage  
10 device through the opening of the data storage system housing along a longitudinal axis of the  
11 media storage device housing, the opposing ends of the media storage device housing being  
12 located along the longitudinal axis, the data media being inserted into and removed from the  
13 media storage device housing along an axis transverse to the longitudinal axis;

14 a spring mechanism comprising a first end and a second end, the first end being  
15 operationally attached to the top of the media storage device housing; and

16 a finger attached to the second end of the spring mechanism;

17 wherein the spring mechanism and the finger are configured to engage the data media.

1 41. The data storage system of claim 40, wherein the media storage device housing  
2 comprises a plurality of slots defined by a plurality of dividers positioned in spaced-apart relation  
3 within the media storage device housing.

1 42. The data storage system of claim 40, wherein the spring mechanism comprises a metallic  
2 strip.

1 43. A data storage system comprising:

2 a system housing having an opening, and reference structures located adjacent the  
3 opening;

4 a media storage device for storing a plurality of data media, the media storage device  
5 comprising a device housing configured to receive the plurality of data media, the device  
6 housing having alignment structures, each of which is adapted to slidably engage with a  
7 respective one of the reference structures such that the media storage device may be inserted into  
8 and removed from the system housing by slidably engaging the reference structures and the  
9 alignment structures and guiding the media storage device through the opening of the system  
10 housing along a longitudinal axis of the device housing, the data media being inserted into and  
11 removed from the device housing along an axis transverse to the longitudinal axis;

12 a spring mechanism having fingers configured to engage the corresponding plurality of  
13 data media to secure the plurality of data media in the device housing;

14 a drawer to receive the media storage device, the drawer being moveable between a  
15 retracted position and an extended position; and

16 guide rails to enable movement of the drawer between the retracted and extended  
17 positions, the guide rails being separate from the reference rails.

1 44. The data storage system of claim 43, wherein the guide rails comprise a first guide rail  
2 attached to the drawer, a second guide rail attached to the system housing, and a third guide rail  
3 slidably engaged to the first and second guide rails.

1 45. The data storage system of claim 43, wherein engagement of the reference structures and  
2 respective alignment structures lifts the media storage device from the drawer.

1 46. The data storage system of claim 45, wherein engagement of the reference structures and  
2 respective alignment structures when the drawer is in the retracted position determines a position  
3 of the media storage device in the data storage system housing instead of the drawer determining  
4 the position of the media storage device.

1 47. A data storage system comprising:

2 a system housing having an opening, and reference structures located adjacent the  
3 opening;

4 a media storage device for storing a plurality of data media, the media storage device  
5 comprising a device housing configured to receive the plurality of data media, the device  
6 housing having alignment structures, each of which is adapted to slidably engage with a  
7 respective one of the reference structures such that the media storage device may be inserted into  
8 and removed from the system housing by slidably engaging the reference structures and the  
9 alignment structures and guiding the media storage device through the opening of the system  
10 housing along a longitudinal axis of the device housing, the data media being inserted into and  
11 removed from the device housing along an axis transverse to the longitudinal axis;

12 a spring mechanism having fingers configured to engage the corresponding plurality of  
13 data media to secure the plurality of data media in the device housing;

14 a moveable drawer to receive the media storage device; and

15 an automated drive system adapted to, in response to user input, move the drawer  
16 between a retracted position to an extended position.

1 48. The data storage system of claim 47, wherein the drive system has a motor to cause  
2 movement of the drawer.

1 49. The data storage system of claim 48, wherein the drive system has a drive gear driven by  
2 the motor to cause movement of the drawer.

1 50. A data storage system comprising:

2 a data storage system housing having an opening, and reference rails located adjacent the  
3 opening;

4 a media storage device for storing a plurality of data media, the media storage device  
5 comprising a media storage device housing configured to receive the plurality of data media, the  
6 housing having opposing ends, the media storage device housing having alignment grooves, each  
7 of which is adapted to slidably engage with a respective one of the reference rails such that the  
8 media storage device may be inserted into and removed from the data storage system housing by  
9 slidably engaging the reference rails and the alignment grooves and guiding the media storage  
10 device through the opening of the data storage system housing along a longitudinal axis of the  
11 media storage device housing, the opposing ends of the media storage device housing being  
12 located along the longitudinal axis, the data media being inserted into and removed from the  
13 media storage device housing along an axis transverse to the longitudinal axis; and

14 a moveable drawer to receive the media storage device, the drawer moveable between a  
15 retracted position inside the data storage system housing and an extended position wherein the  
16 drawer protrudes from the data storage system housing,

17 the drawer further comprising supplemental slots to store spare data media, the  
18 supplemental slots separate from the media storage device.

1 51. The data storage system of claim 50, further comprising at least another media storage  
2 device for storing a plurality of data media,

3 wherein the drawer has trays to receive respective media storage devices,

4 the supplemental slots being separate from the media storage devices.

1 52. The data storage system of claim 43, wherein the drawer and media storage device are an  
2 integrated unit.



53. A data storage system comprising:

a data storage system housing having an opening, and reference rails located adjacent the opening;

a media storage device for storing a plurality of data media, the media storage device comprising a media storage device housing configured to receive the plurality of data media, the housing having opposing ends, the media storage device housing having alignment grooves, each of which is adapted to slidably engage with a respective one of the reference rails such that the media storage device may be inserted into and removed from the data storage system housing by slidably engaging the reference rails and the alignment grooves and guiding the media storage device through the opening of the data storage system housing along a longitudinal axis of the media storage device housing, the opposing ends of the media storage device housing being located along the longitudinal axis, the data media being inserted into and removed from the media storage device housing along an axis transverse to the longitudinal axis;

at least another media storage device for storing a plurality of data media, the media storage devices stacked in a vertical stack arrangement; and

a plurality of moveable drawers to receive respective media storage devices, each drawer moveable between a retracted position inside the data storage system housing and an extended position wherein the drawer protrudes from the data storage system housing.

1 54. A data storage system comprising:

2 a data storage system housing having an opening, and reference rails located adjacent the  
3 opening; and

4 a media storage device for storing a plurality of data media, the media storage device  
5 comprising a media storage device housing configured to receive the plurality of data media, the  
6 housing having opposing ends, the media storage device housing having alignment grooves, each  
7 of which is adapted to slidably engage with a respective one of the reference rails such that the  
8 media storage device may be inserted into and removed from the data storage system housing by  
9 slidably engaging the reference rails and the alignment grooves and guiding the media storage  
10 device through the opening of the data storage system housing along a longitudinal axis of the  
11 media storage device housing, the opposing ends of the media storage device housing being  
12 located along the longitudinal axis, the data media being inserted into and removed from the  
13 media storage device housing along an axis transverse to the longitudinal axis;

14 at least another media storage device for storing a plurality of data media,  
15 the media storage devices stacked in a vertical stack arrangement; and

16 a bulk access apparatus to provide single access to the plurality of media storage devices  
17 arranged in the vertical stack arrangement.

1 55. The data storage system of claim 40, further comprising:

2 a media exchange device for moving the media storage device;

3 a first guide structure attached to the media exchange device;

4 a second guide structure attached to the data storage system housing, the second guide  
5 structure to interact with the first guide structure to move the media exchange device,

6 wherein the reference rails and alignment grooves are separate from the guide structures.

1 56. The data storage system of claim 55, wherein the media exchange device is integrated  
2 with the media storage device.

1 57. The data storage system of claim 40, wherein the media storage device is for storing a  
2 plurality of machine-readable devices, each machine-readable device for storing data.

1 58. The data storage system of claim 40, wherein the media storage device has a plurality of  
2 slots to receive respective data media.

1 59. The data storage system of claim 40, further comprising a second media storage device  
2 for storing a plurality of data media, the second media storage device having alignment grooves,  
3 wherein the alignment grooves of the second media storage device are engageable by the  
4 same reference rails.

1 60. A data storage system comprising:  
2 a data storage system housing having an opening and reference structures;  
3 a media storage device for storing a plurality of data media devices, the media storage  
4 device having a housing with alignment structures to slidably engage the respective reference  
5 structures to enable slidable movement of the media storage device through the opening of the  
6 data storage system housing;  
7 a spring mechanism having plural fingers configured to engage and secure the  
8 corresponding plurality of data media in the device housing;  
9 a moveable media exchange device to receive the media storage device, the media  
10 exchange device moveable between a retracted position and an extended position, wherein the  
11 media storage device is positioned inside the data storage system housing when the media  
12 exchange device is in the retracted position, and wherein the media storage device protrudes  
13 from the data storage system housing when the media exchange device is in the extended  
14 position; and  
15 guide structures to moveably guide the media exchange device between the retracted and  
16 extended positions.

1 61. The data storage system of claim 60, wherein the guide structures are separate from the  
2 reference structures and alignment structures.

1 62. The data storage system of claim 61, wherein the media storage device has a plurality of  
2 slots to receive respective data media devices.

1 63. The data storage system of claim 21, wherein the first and second elongate reference  
2 structures comprise first and second elongate reference rails, and wherein the first and second  
3 elongate alignment structures comprise first and second elongate alignment grooves.

1 64. The data storage system of claim 21, further comprising:  
2 a moveable media exchange device to receive the media storage device, the media  
3 exchange device moveable between a retracted position and an extended position.

1 65. The data storage system of claim 21, wherein the fingers comprise respective locking  
2 elements to secure respective data media.

1 66. The data storage system of claim 43, wherein the fingers comprise respective locking  
2 elements to secure respective data media.

1 67. The data storage system of claim 50, wherein the supplemental slots are defined by one  
2 or more slot dividers.

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.